Body fat percentage of urban South African children: Implications for health and fitness

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**Abstract**

**Background and aim:** Body fat percentage has been used along with body mass index (BMI) to evaluate human health risks such as cardiovascular risk in clinical practice. It is important to monitor the level of adiposity in children in order to control and prevent health risks associated with excess or low body fatness. Although there are few studies on percentage body fatness of South African children, the literature assessing the gender and racial profiling of percentage body fat is seemingly scant. Therefore, the purpose of the study was to examine gender and racial profile of percentage body fat of urban South African children attending public schools in Pretoria Central.

**Methods:** This was a cross-sectional survey of 1136 randomly selected children (548 boys and 588 girls) aged 9-13 years in urban (Pretoria Central) of South Africa. Body mass, stature, skinfolds (subscapular and triceps) were measured using standardised protocols. Data was analysed using descriptive statistics (means and standard deviations). Differences in the mean body fat percentage were examined for boys and girls according to their age group/race, using independent t-test samples.

**Results:** Girls had a significantly ($p = 0.001; p \leq 0.05$) higher percentage body fat ($22.7 \pm 5.7\%$ (95% CI = 22.3–23.2) compared to boys ($16.1 \pm 7.7\%$, 95% CI = 15.5-16.8). Percentage body fat fluctuated with age in both boys and girls. Additionally, girls had significantly ($p = 0.001$) higher percentage body fat measurements at all ages compared to boys. Viewed racially, black children were ($20.1 \pm 7.5$) significantly ($p = 0.010; p \leq 0.05$) fatter than white children ($19.0 \pm 7.4$) with a mean difference of 4.0. Black children were fatter than white children at ages 9, 10, 12 and 13 years, with a significant difference ($p = 0.009; p \leq 0.05$) observed at age 12 years.

**Conclusion:** Excessive percentage body fat was noticeable among school children in Central Pretoria, South African, with girls having significantly higher percentage body fat compared to boys. Also, black children were fatter than white children. The excessive percentage body fat observed among the children in this study has implications for their health and fitness. Therefore, an intervention programme must be instituted in schools to prevent and control possible excessive percentage body fat in this age group.

**Biography**

Goon has completed his PhD from Tshwane University of Technology, Pretoria, South Africa. He is a Senior Lecturer, a Level II International Advancement of Kinanthropometry (ISAK) trained anthropometrist. He has published more than 60 papers in reputed journals both nationally and internationally. He is a reviewer of several journals. His research interests include obesity, growth and development.